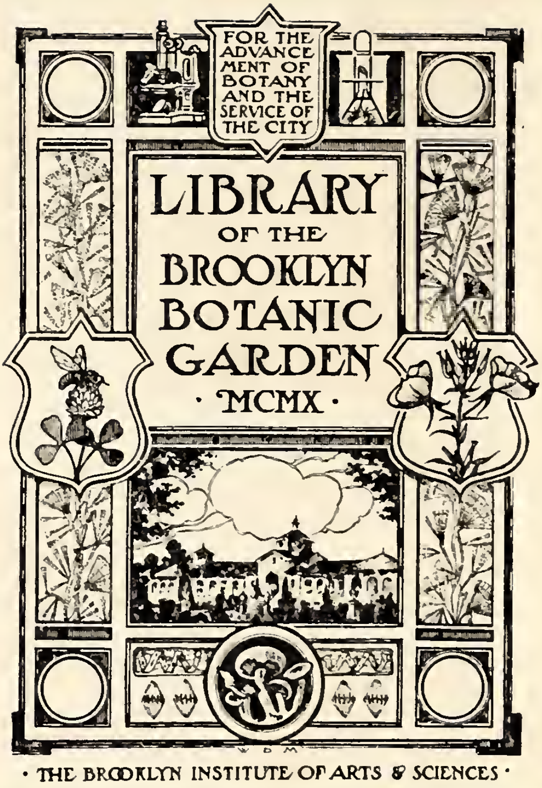

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INTERNATIONAL FLOWER SHOW
EXHIBIT NUMBER

BROOKLYN BOTANIC GARDEN
LEAFLETS

SERIES XXVI BROOKLYN, N. Y., MARCH 15, 1939 No. 1-2

THE BROOKLYN BOTANIC GARDEN EXHIBIT OF HOUSE PLANTS

INTERNATIONAL FLOWER SHOW

MARCH 13TH TO 18TH, 1939

Plants in the home may be regarded as transients to be discarded when they pass out of bloom; or they may be looked on as permanent occupants which are expected to thrive indefinitely.

The first group contains plants such as *Acacia, Cineraria, Erica, Genista, Hydrangea,* and forced roses. They may last a week, two weeks, or somewhat longer, but they ultimately have to be discarded; or, as in the case of hydrangeas and roses, planted in the garden. Even though these plants are transitory they give value for money if their period of attractiveness is contrasted with that of cut flowers, which seldom last more than a few days.

However, such transitory plants are not the subject of this exhibit: we are including only those which may be expected to last three months or longer in the home if given a suitable location (not over a radiator and not in a dark room!) and reasonable care. It may be argued that the hardy spring-flowering bulbs and cyclamens which are included, really represent transitory material; but, if one has a cold cellar or a plunge pit the bulbs may be grown from dormant bulb to maturity; and cyclamens will last a long time if kept in a cool sun porch, and may even be induced to bloom the second season if they are properly cared for.

The more than one hundred species and varieties of plants in the exhibit are arranged in sections according to their light requirements and their ability to survive under an arduous (for plants) home life. In the group of plants "that can take it" and remain alive under adverse conditions we have: *Aglaonema commutatum, A. simplex,* Chinese Evergreen; *Aspidistra elatior,* Cast-iron-plant; *Dieffenbachia Seguine,* Mother-in-law plant (other species and varieties also are resistant); *Dracaena fragrans* var. *Massangeana; Ficus elastica,* Rubber Plant, *F. pandurata,* Fiddle-leaf Fig; *Howea Belmoreana,* Curly Palm; *Monstera deliciosa* (*Philodendron pertusum* of florists); *Nephthytis Afzelii* (*liberica*)*; Pandanus utilis,* Screw pine, *P. Veitchii; Philodendron Imbe; Polystichum adiantiforme,* Leatherleaf Fern; *Pothos aureus; Sansevieria trifasciata* var. *Laurentii,* Snake Plant; and *Schismatoglottis Roebelinii,* a plant which is in dire need of a common name!

Among those recommended for north windows we have: *Aglaonema costatum; Dracaena Sanderiana* (green form)*; Hedera Helix* varieties, English Ivy; *Impatiens Sultani,* Zanzibar Balsam or Patience (this grows and blooms better when allowed some sunshine) ;*Monstera deliciosa, M. dubia; Peperomia obtusifolia, Peperomia Sandersii* var. *argyreia; Philodendron Corsonianum, P. Mamei, P. verrucosum; Pothos aureus; Saintpaulia ionantha,* African violet; *Syagrus (Cocos) Weddelliana,* Weddell Palm; *Syngonium podophyllum* var. *albolineatum.*

Those which require as much sunshine as they can be given under house conditions include: *Begonia semperflorens,* Wax Begonia, which will grow in partial shade but requires sun for free blooming; *Hippeastrum hybridum,* Amaryllis; *Oxalis rubra; Pelargonium zonale,* Horseshoe Geranium; *Rosa Rouletti,* Pigmy Rose. Then there are cacti such as: *Aporocactus flagelliformis; Astrophytum ornatum; Ferocactus Lecontei; Mammillaria microcarpa; Opuntia Bigelovii, O. microdasys;* and *Zygocactus truncatus,* the Christmas cactus. Also included in this group are various succulents such as: *Aloe plicatilis, Aloe aristata* x *Beguinii; Byrnesia Weinbergii, Cereus peruvianus; Crassula lactea, C. portulacea,* Jade Plant; *Dudleya grandis; Echeveria Hoveyi, E. leucotricha; Euphorbia splendens,* Crown-of-thorns; *Gasteria glabra, G. picta; Haworthia cymbiformis; Kalanchoe Blossfeldiana, K. daigremontiana, K. hybrids; Kleinia repens; Pachyveria clavifolia; Pedilanthus Smallii* var. *variegata; Portulacaria afra; Sedum Adolphii; S. guatemalense;* and *Yucca aloifolia* var. *variegata.*

Plants which can be grown successfully in windows facing south, east, or west, include: *Abutilon hybridum* var. *Savitzii,* a form belonging in the group sometimes called "Flowering Maple," although it has no connection with the maples; *Begonia Credneri. B.* Improved Margaritae, *B. Thurstoni;Beloperone guttata,* Shrimp Plant; *Clivia miniata; Cordyline terminalis; Dieffenbachia* (Mother-in-law Plant) *Bausei, D. Chelsoni, D. insignis; Dracaena deremensis, D. Godseffiana, D. Sanderiana; Homalomena rubescens; Marica Northiana,* Apostle Plant; *Maranta arundinacea* var. *variegata,* a form of Arrowroot ;*Nephrolepis exaltata* var. *bostoniensis,* Boston Fern; *Syngonium auritum; Xanthosoma Lindeni,* Indian Kale; *Zantedeschia aethiopica,* Common Calla, *Z. Elliottiana,* Golden Calla; and various representatives of the Pineapple Family such as *Aregelia marmorata, Billbergia Leopoldii, Cryptanthus zonatus, Nidularium Innocentii, and Vriesia Kitteliana.* The spring-flowering bulbs—Hyacinth, Narcissus, Tulip, etc.—are included in this group.

There are some plants listed below which are happy under house conditions if they are kept cool during the winter. These are grouped around a label indicating that they prefer a winter temperature between 40 and 50 degrees. *Acorus gramineus* var. *variegatus; Araucaria excelsa,* Norfolk Island Pine; *Asparagus Spren-*

geri; Camellia japonica; Cyclamen indicum var., the florists' Cyclamen; *Cymbalaria muralis*, Kenilworth Ivy; *Cyrtomium falcatum,* Holly Fern; *Ficus pumila*, Creeping Fig; *Hedera Helix*, English Ivy in variety; *Helxine Soleirolii,* Carpet Plant or Baby's Tears; *Primula obconica*, Poison Primrose—this should be included with reservations because it is capable of causing a dermatitis—*P. sinensis*, Chinese Primrose;*Pteris cretica* and *P. serrulata* varieties; and *Rhododendron indicum*, Indica Azalea.

A number of plants displayed are growing in hanging pots. The type of pot shown with attached watertight saucer is especially desirable for house conditions because if care is used it eliminates the annoyance of water dripping on floors and furnishings. Most of these plants have a trailing or a climbing habit: *Asparagus Sprengeri,* Emerald Feather; *Cissus rhombifolia*, Ivy Grape; *Hedera Helix* var. *marginata; Philodendron cordatum, P. micans; Pothos aureus; Saxifraga sarmentosa,* Strawberry Geranium; *Scindapsus pictus* var. *argyraeus; Senecio mikanioides*, German Ivy, *S. tropaeolifolius,* (must have sunshine); and *Zebrina pendula* var., Wandering Jew.

Several species will thrive for a time in plain water. Opaque containers are preferable when plants are grown this way. The following are specially suitable for water culture: *Aglaonema simplex,* Chinese Evergreen; *Hedera Helix,* English Ivy; *Ipomoea Batatas*, Sweet Potato; *Nephthytis Afzelii; Spironema fragrans,* Spiral Thread; *Tradescantia fluminensis,* Wandering Jew; *Zebrina pendula* var. *quadricolor,* Wandering Jew.

Doubtless the table labelled "Veterans of the Living Room" will be of great interest to all visitors who are lovers of house plants. The table is furnished with plants which have lived for six months or longer in a dwelling—many of them for more than two years. They were cared for in Brooklyn or the Bronx by wives of Botanic Garden employees. The star performer in this group is the vine-like *Scindapsus pictus* var. *argyraeus* which, although its roots are confined in a 5-inch bulb pan, has made shoots sixteen feet long during its sojourn of two years in a dwelling. Others on this table are: *Acorus gramineus* var. *variegatus; Adiantum caudatum; Agave horrida; Aglaonema costatum; Asparagus Sprengeri*, Emerald Feather; *Cissus rhombifolia*. Ivy Grape; *Cryptanthus Beuckeri; Cymbalaria muralis*. Kenilworth Ivy; *Dieffenbachia Bausei, D. Seguine; Dracaena Godseffiana; Helxine Soleirolii*. Carpet Plant; *Homalomena rubescens; Kyllinga triceps; Maranta arundinacea* var. *variegata; Oxalis rubra; Pandanus Veitchii; Philodendron cordatum, P. Corsonianum, P. gloriosum, P. Imbe; Pothos aureus; Pteris serrulata* var.; *Selaginella Kraussiana* var. *Brownii; Syngonium podophyllum* var. *albolineatum;* and *Xanthosoma Lindeni*, Indian Kale.

Some of the plants are displayed set in window boxes—large and small. In one of the large boxes the plants are planted in sand

and have been watered with nutrient solution; in the other the plants are set in fairly rich soil. The boxes are of the "self-watering" type which have the advantage of not requiring a drip tray to prevent marring of sill and floor.

Here and there throughout the exhibit are plants grown either in sand or sphagnum moss and watered with a nutrient solution.[1] These are included to indicate the possiblity of growing house plants by this method.

When conditions are such that there is no way of humidifying the air of the room, it is possible to grow plants in Wardian cases or terraria. There is almost no limit to the number of species that can be grown in this manner. Of course one should endeavor to select those kinds which are not likely to outgrow their quarters too rapidly.

Included in the cases shown (homemade as well as bought ones) are:

Aglaonema commutatum
“ costatum
Begonia imperialis
“ Rex-cultorum
Billbergia Leopoldii
Calathea ornata
Codiaeum in variety
Cordyline terminalis
Davallia pentaphylla
Dieffenbachia Seguine
Dracaena Godseffiana
“ Sanderiana
Episcia cupreata
Fittonia Verschaffeltii
“ “ var. argyroneura
Maranta arundinacea var. variegata
Peperomia obtusifolia
“ “ var. variegata
“ Sandersii var. argyreia
Philodendron cordatum
Pteris cretica var.
“ ensiformis var. Victoriae
Saintpaulia ionantha
Saxifraga sarmentosa
Schismatoglottis Roebelinii
Scindapsus pictus var. argyraeus
Selaginella Emmeliana
“ Kraussiana var. Brownii
“ Martensii
Spathiphyllum floribundum
Syngonium podophyllum var. albolineatum
Tradescantia fluminensis variegata
Vanilla fragrans var. variegata
Zebrina pendula var. quadricolor

Other plants which may be used for Wardian cases include:

Adiantum Capillus-Veneris
“ cuneatum
Alternanthera amoena varieties
Anthurium Scherzerianum
Asparagus plumosus var. nanus
Asplenium Nidus
Begonia foliosa
“ imperialis var. smaragdina
Calathea illustris
“ roseo-picta
“ zebrina
Davallia bullata
“ fijiensis
“ lucida
Dracaena deremensis
“ Goldieana

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[1] The nutrient solution used at the Brooklyn Botanic Garden consists of:

Superphosphate	5.8 grams	to 5 gallons of water
Sodium nitrate	6.4 “	
Epsom salts	10.3 “	
Muriate of potash	3.9 “	

To the above is added 1 teaspoonful of trace element stock solution made up as follows:

Ferrous sulphate	2.5 grams	to 1 pint of water
Manganese sulphate	0.9 “	
Boric acid	1.4 “	
Zinc sulphate	1.1 “	

Dizygotheca elegantissima
Maranta roseo-lineata
" leuconeura var. Kerchoveana
Nephrolepis—small varieties
Pilea microphylla
Polystichum tsus-simense
Syagrus Weddelliana

Wardian case plants for a cool room include:

Acorus gramineus
" " var. variegatus
Buxus sempervirens var. suffruticosa
Camellia japonica
Coprosma Baueri variegata
Cyrtomium falcatum
Daphne odora
Euonymus radicans and varieties
Ficus pumila
Hedera Helix var. argenteo-variegata
" " " conglomerata
Hedera Helix var. Merion Beauty
" " " minima
Ligularia Kaempferi var. aureo-maculata
Mondo (Ophiopogon) Jaburan var. vittata
Pteris Wilsoni and other small varieties
Primula obconica
" sinensis
Rhododendron—Kurume varieties

and mosses, lichens, small ferns, partridge berry, hepatica and other small hardy material.

Following are a few brief pointers on the care of house plants.

Atmospheric moisture. One of the chief reasons for the failure of plants in the home is the excessively dry air. Modern hot air furnaces are equipped with fairly effective humidifying devices which, however, sometimes get out of order so that it is necessary to keep watch on them to ensure they are always working. When the home is heated by hot water or steam, evaporating pans on the radiators (which should be kept filled with water!) will help. There are also other humidifying devices which may be used. No matter which system of heating is used it is a good plan to stand or imbed the plant pots on or in moisture-holding material. This will help to keep the air moist in the vicinity of the plants and reduce the frequency of watering. A shallow watertight tray filled with coarse sand, small pebbles or peatmoss on which to stand the pots may be used; or the pots may be plunged in sand or peatmoss in a window box. The sand, etc., must, of course, be kept moist. The plants should be moved occasionally to discourage them from rooting through the drainage hole in the pot. Do not stand plants on radiators that are in use if you want them to thrive.

Temperature. Hot air is capable of holding more moisture than cool air, therefore, other conditions being equal, the relative humidity of the air in a cool room is greater than in the air of the average overheated apartment. Even tropical plants are likely to thrive better in a bedroom(where the average temperature is lower than that of the living room) provided that the temperature does not fall below 45 degrees at night. The blasting of the flower buds of spring-flowering bulbs is almost invariably linked with high temperature and low humidity. Even the Paper White Narcissus, which is about the most tolerant of all bulbous plants used in the home, sometimes rebels when the attempt is made to grow it from start to finish in a temperature of 75 or 80 degrees. Because of these factors the temperature should be kept as low as possible consistent with human comfort. Azaleas, camellias, the hardy spring-flowering bulbs, and other cool house subjects should not be attempted unless one has an unheated sun porch or room where the temperature seldom goes above 50 or below 35 degrees during the winter months. These plants, however, may be kept at living-room temperature during the time they are actually in bloom.

Watering. The frequency of watering is determined by the nature of the plant, the character of the soil, whether or not the roots are crowded in the pot, and conditions of light, humidity, and temperature. Therefore it is impossible to say how much water a plant should be given. or how frequently it should be applied. It may need watering twice a day or twice a week or even twice a month. The only rules that can be given are general and sometimes these must be modified by special circumstances. Usually the soil should be given a thorough soaking whenever it is less than moist: plants do not require so much water when they are not actively growing.

Drainage. The soil in flower pots which are provided with an inch or so of drainage material in the bottom is much less likely to become waterlogged than in pots where this precaution is neglected. Since waterlogging usually affects plants adversely and since the danger of over-watering is lessened if the pots are properly drained, it is advisable to put in plenty of drainage material when repotting, and replace it should it become clogged through the ministrations of earthworms or otherwise.

Repotting. A plant may need to be transferred to a larger pot when the soil is overcrowded with roots. If the pot is already so big that a larger size would be unwieldy it may be possible to keep the plant in good health by removing as much soil as possible without undue root disturbance and replacing it with new soil. An alternative is to "feed" the plant with liquid manure; or, commercial fertilizer (at the rate of a level teaspoonful to a 6-inch pot every four or six weeks, of any brand containing about 5% nitrogen, 10% phosphoric acid and 5% potash); or, fertilizer "pills" obtained from a seed or florist store and used according to the directions on the package. An ideal potting soil for general purposes may be made by stacking sods from a cow pasture in a multiple-decked sandwich with manure as the filler between each layer. Turn the pile two or three times at intervals of two months to mix soil and manure, and after a year it will be ready for use. If too heavy, add sufficient coarse sand to make it porous. Add granulated peatmoss, about one-third by bulk, if you are potting acid-soil plants such as azaleas and camellias. If you cannot obtain this "ideal" soil use soil from the vegetable plot, beg some from a market gardener, or buy some from a seed store.

Light. There are but few plants which cannot endure all the light available in the average home, especially when, as is usually the case, there are curtains between them and the window. Therefore they should be given the sunniest position available and in the case of most cacti and succulents they should be placed between the curtains and the window; or better still, get rid of the curtains.

Pests. One of the best ways of keeping house plants free of pests is to place them in the empty bath tub once a week and vigorously spray the foliage, both sides, with water from the hose. Apply the water with sufficient force to knock off the insects and wash them down the drain. This will also help keep the leaves free from dust and enable them to perform their functions unhampered by clogged pores.

Vacation. When danger of frost has passed, give the plants a vacation by placing them outdoors. Bury their pots to the rim in earth, peatmoss, sand or coal ashes, to reduce the frequency of watering. Before plunging them put a few inches of clinkers in the bottom of the hole to provide drainage, to discourage earth worms from entering, and roots from leaving, the pots. Bring the plants indoors before it is necessary to use artificial heat, because this will give them an opportunity to become reacclimated without the additional discomfort, at first, of excessive dryness of the air.

Alphabetical list of plants in exhibit, exclusive of those in Wardian cases.

Abutilon hybridum var. Savitzii
Acorus gramineus var. variegatus
Adiantum caudatum
Agave horrida
Aglaonema costatum
" commutatum
" simplex
Aloe aristata x Beguinii
" plicatilis
Aporocactus flagelliformis
Araucaria excelsa
Aregelia marmorata
Asparagus Sprengeri
Aspidistra elatior
" " var. variegata
Astrophytum ornatum
" Thurstoni
Begonia—Improved Margaritae
" Credneri
" semperflorens
" Thurstoni
Beloperone guttata
Billbergia Leopoldii
Byrnesia Weinbergii
Camellia japonica
Cereus peruvianus
Cissus rhombifolia
Clivia miniata
Cordyline terminalis
Crassula lactea
" portulacea
Cryptanthus Beuckeri
" zonatus
Cyclamen indicum var.
Cymbalaria muralis
Cyrtomium falcatum
Dieffenbachia Bausei
" Chelsonii
" insignis
" Seguine
Dracaena deremensis
" fragrans var. Massangeana
" Godseffiana
" Sanderiana
" " (green form)
Dudleya grandis
Echeveria Hoveyi
" leucotricha
Ferocactus Lecontei
Ficus elastica
" pandurata
" pumila
Gasteria glabra
" picta
Haworthia cymbiformis
Hedera Helix
" " var. marginata
Helxine Soleirolii
Hippeastrum hybridum
Homalomena rubescens
Howea Belmoreana
Hyacinth
Impatiens Sultani var. variegata
Ipomoea Batatas
Kalanchoe Blossfeldiana
" Daigremontiana
" hybrids

Kleinia repens
Kyllinga triceps
Mammillaria microcarpa
Marica Northiana
Monstera deliciosa
“ dubia
Narcissus—Paper-white
“ (Daffodil)
Nephrolepis exaltata
var. bostoniensis
Nephthytis Afzelii
Nidularium Innocentii
Opuntia Bigelovii
“ microdasys
“ “ var. rufida
Oxalis rubra
Pachyveria clavifolia
Pandanus utilis
“ Veitchii
Pedilanthus Smallii var. variegata
Pelargonium domesticum var.
Peperomia obtusifolia
“ Sandersii var. argyreia
Philodendron Andreanum
“ cordatum
“ Corsonianum
“ gloriosum
“ hastatum
“ Imbe
“ Mamei
“ micans
“ Sodiroi
“ verrucosum
Polystichum adiantiforme
Portulacaria afra
Pothos aureus
Primula obconica
“ sinensis
Pteris serrulata var.
Rhododendron indicum
Rosa Rouletti
Saintpaulia ionantha
Sansevieria trifasciata var. Laurentii
Saxifraga sarmentosa
Schismatoglottis Roebelinii
Scindapsus pictus var. argyraeus
Sedum Adolphii
“ guatemalense
Selaginella Kraussiana var. Brownii
Senecio mikanioides
“ tropaeolifolius
Spironema fragrans
Syagrus Weddelliana
Syngonium auritum
“ podophyllum
var. albolineatum
Tradescantia fluminensis variegata
Tulip
Vriesia Kitteliana
Xanthosoma Lindeni
Yucca aloifolia var. variegata
Zantedeschia aethiopica
“ Elliottiana
Zebrina pendula
“ “ var. quadricolor
Zygocactus truncatus

The one hundred and thirty species and varieties listed above does not include *all* the plants that can be grown under house conditions. It is, however, lengthy enough to indicate that a wide variety of plants is available and that one need not be restricted to the ubiquitous Snake-plant.

MONTAGUE FREE.